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416/928-2066

Janet Campbell, Editor

GENERAL NEWS

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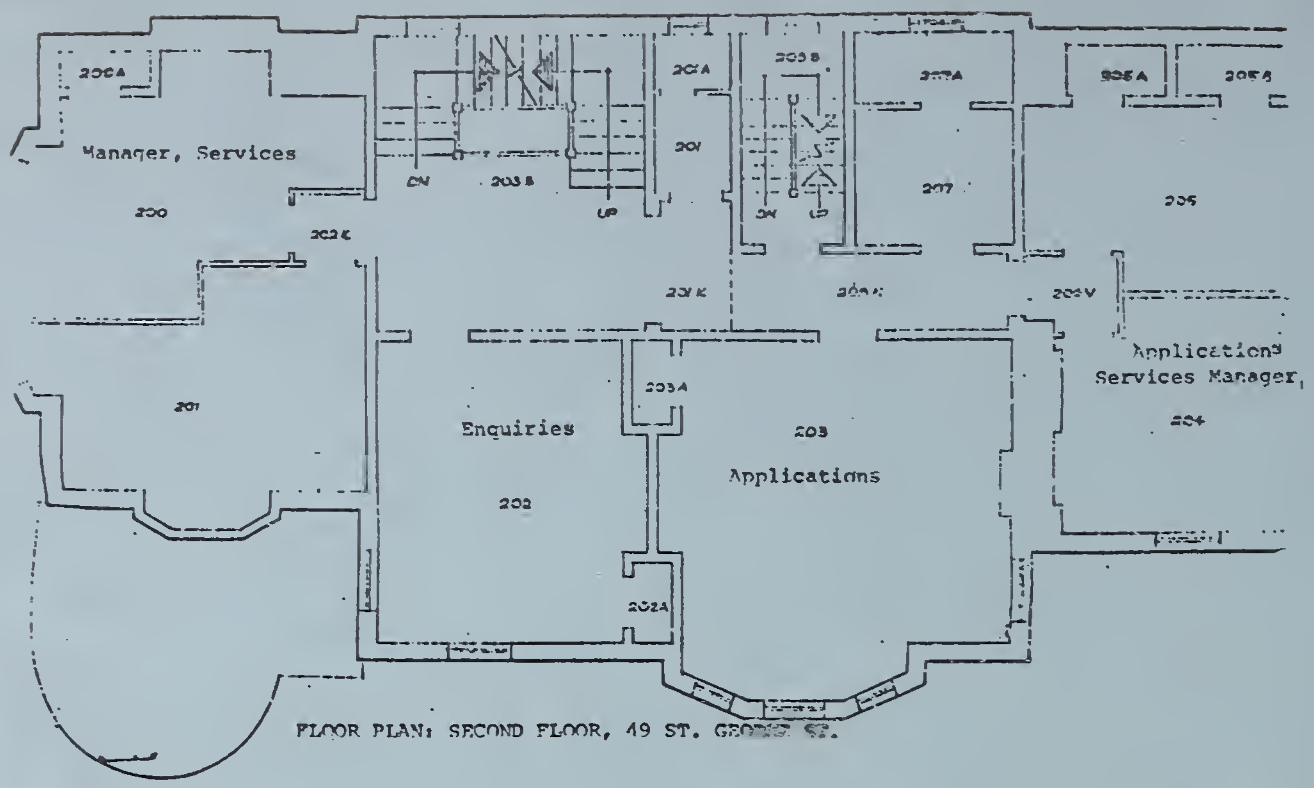
COMPUTERNEWS

University of Toronto

March 75   ISSN 0315-4661   No.122



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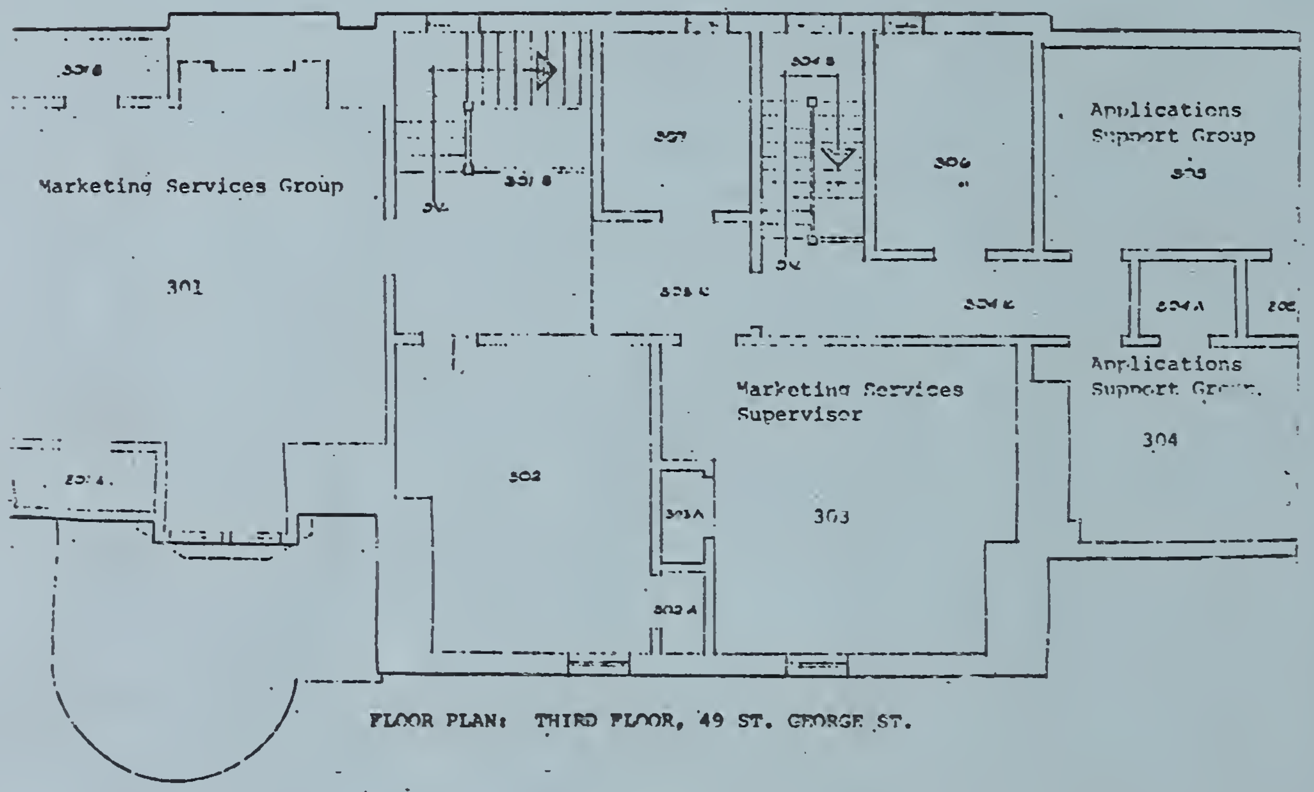
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COMPUTERNEWS is a monthly publication produced by the University of Toronto Computer Centre. Enquiries or contributions should be directed to the Editor, Janet Campbell or the Assistant Editors, Margo Harvie and Ruth Borenstein in the Sandford Fleming Building room SF125 or (416)-928-2066. Layout and ATS typing are provided by Lynne Jenkins. Subscription changes should be directed to the Information Office, Sandford Fleming Building room SF128 or (416)-928-4990.

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Permission is granted to reprint articles from COMPUTERNEWS for noncommercial purposes provided the author, publication and issue are acknowledged.

COMPUTERNEWS SUBSCRIPTION DATA LOST

Most subscribers are aware that UTCC is currently revising the COMPUTERNEWS mailing list. The last two issues of COMPUTERNEWS contained an ADDRESS FORM which subscribers were asked to complete and return if they wished to continue receiving the newsletter. The response from our readers was excellent; the majority of our subscribers returned their forms promptly despite the mail strike. Unfortunately, due to an oversight on our part, a portion of the returned ADDRESS FORMS have been lost. As a result, we have incomplete data and are unable to implement the new mailing list with this issue of COMPUTERNEWS as originally advertised.

In order to reconstruct the missing data with the least inconvenience to our subscribers, UTCC will mail a duplicate ADDRESS FORM exclusively to those subscribers for whom we have no record of a response. Subscribers who receive a new ADDRESS FORM by mail are asked to complete the form and return it even if they have previously completed the form when it appeared on the back cover of COMPUTERNEWS. Subscribers who do not receive a duplicate ADDRESS FORM by mail are assured that UTCC has a record of their new address data.

UTCC sincerely regrets any inconvenience caused by our error. Subscription enquiries should be directed to June Bridges at 928-4990.

Don Gibson

IT'S A USERBOOK!

We are proud to announce the rebirth of USERBOOK. The revitalized arrival weighs a husky 7 pounds complete. Both book and editors are reported doing well after a strenuous delivery carried out by the Information Office. The only threat of complications were those of the Stork (POSTAL) strike.

If you are expecting, but have not yet received your bundle of joy, please contact the Information Office, SF128 (982-4990) as you are now overdue.

The idea for the new modularized USERBOOK was conceived last spring (a protracted gestation period) as an alternative to the old USERBOOK which was becoming unmanageable simply from size, expense, and from its numbering scheme. Under the old system if a user wanted any of the USERBOOK, he had to take the entire book. This resulted in many unwanted sections either being aborted or uncared for when updates were issued. The new modularized system allows users to adopt only those sections relevant to his needs and receive updates only for the sections he holds. The net result is that printing and mailing costs for updates have been considerably reduced, and the user has a manual tailored to his requirements.

cont'd...

IT'S A USERBOOK Cont'd.

Most users have elected to hold only selected sections as opposed to the entire book. The first graph below shows how many users hold a given number of modules -- 4 people hold only 1 module, 9 people hold 2 modules, etc. The second graph indicates the popularity of given modules. 693 people hold the USERBOOK base; 613 hold Section 2.000.

Don Gibson

```
# OF MODS  # OF PEOPLE
  HELD       HOLDING    %
   1           4       1 o/o           XXXX
   2           9       1 o/o           XXXXXXXXX
   3           7       1 o/o           XXXXXXX
   4          26       4 o/o           XXXXXXXXXXXXXXXXXXXXXXXXXX
   5           5       1 o/o           XXXXX
   6           7       1 o/o           XXXXXXX
   7           8       1 o/o           XXXXXXXX
   8          12       2 o/o           XXXXXXXXXXXX
   9          11       2 o/o           XXXXXXXXXXX
  10          14       2 o/o           XXXXXXXXX·XXXX
  11           8       1 o/o           XXXXXXXX
  12          15       2 o/o           XXXXXXXXXXXXXXX
  13          23       3 o/o           XXXXXXXXXXXXXXXXXXXXXXX
  14          17       2 o/o           XXXXXXXXXXXXXXXXX
  15          13       2 o/o           XXXXXXXXXXXXX
  16          16       2 o/o           XXXXXXXXXXXXXXXX
  17          19       3 o/o           XXXXXXXXXXXXXXXXXXX
  18          15       2 o/o           XXXXXXXXXXXXXXX
  19          20       3 o/o           XXXXXXXXXXXXXXXXXXXX
  20          15       2 o/o           XXXXXXXXXXXXXXX
  21          18       3 o/o           XXXXXXXXXXXXXXXXXX
  22          23       3 o/o           XXXXXXXXXXXXXXXXXXXXXXX
  23          22       3 o/o           XXXXXXXXXXXXXXXXXXXXXX
  24          21       3 o/o           XXXXXXXXXXXXXXXXXXXXX
  25          17       2 o/o           XXXXXXXXXXXXXXXXX
  26          11       2 o/o           XXXXXXXXXXX
  27          21       3 o/o           XXXXXXXXXXXXXXXXXXXXX
  28          15       2 o/o           XXXXXXXXXXXXXXX
  29          15       2 o/o           XXXXXXXXXXXXXXX
  30          13       2 o/o           XXXXXXXXXXXXX
  31          13       2 o/o           XXXXXXXXXXXXX
  32          11       2 o/o           XXXXXXXXXXX
  33           7       1 o/o           XXXXXXX
  34           9       1 o/o           XXXXXXXXX
  35          11       2 o/o           XXXXXXXXXXX
  36           5       1 o/o           XXXXX
  37           7       1 o/o           XXXXXXX
  38           6       1 o/o           XXXXXX
  39           2       0 o/o           XX
  40           2       0 o/o           XX
  41           3       0 o/o           XXX
  42           4       1 o/o           XXXX
  43           2       0 o/o           XX
  44           2       0 o/o           XX
  45           2       0 o/o           XX
  46         167      24 o/o           XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX.
```

	MODULE	# OF HOLDERS
[1]	*USERBOOK BASE*	693
[2]	*SECTION* 2.000	613
[3]	*SECTION* 3.000	683
[4]	3.3*BATCH*	533
[5]	3.3*DEBUG*	539
[6]	3.3*DISKDM*	446
[7]	3.3*TAPES*	443
[8]	3.3*TSO*	449
[9]	3.4*SELECT*	337
[10]	3.4*SUBUTILS*	434
[11]	3.4*UTDSUTIL*	394
[12]	3.4*UTILS*	418
[13]	3.5*ASM*	382
[14]	3.5*COBOL*	350
[15]	3.5*FORTRAN*	556
[16]	3.5*LINKEDIT*	413
[17]	3.5*PLI*	495
[18]	3.5*SNOBOL*	346
[19]	3.6*HSALGOLW*	327
[20]	3.6*HSASMG*	359
[21]	3.6*HSASSIST*	305
[22]	3.6*HSLISP*	319
[23]	3.6*HSPLC*	444
[24]	3.6*HSPLUTO*	314
[25]	3.6*HSSIMON*	269
[26]	3.6*HSSPITBOL*	344
[27]	3.6*HSSPK*	328
[28]	3.6*HSSPSSO*	297
[29]	3.6*HSWATBOL*	320
[30]	3.6*HSWATFIV*	524
[31]	3.7*AID3MCA*	220
[32]	3.7*BMD*	289
[33]	3.7*BMD.BMDCORE*	268
[34]	3.7*CENSUS71*	247
[35]	3.7*DATATEXT*	281
[36]	3.7*IMSL*	274
[37]	3.7*INDEX*	387
[38]	3.7*MATHAPP*	384
[39]	3.7*OTHER*	323
[40]	3.7*SPSS*	346
[41]	3.7*SSPSTAT*	326
[42]	3.7*STATINDEX*	354
[43]	3.8*PLOTBASIC*	466
[44]	3.8*PLOTBASIC.SUBEXT*	438
[45]	3.8*PLOTINFO*	457
[46]	*SECTION* 4.000	556

WELCOME OISE

The University of Toronto Computer Centre is pleased to welcome to its list of users the Ontario Institute for Studies in Education (OISE) which is now in the process of 'coming aboard' as a remote terminal. We hope that we can serve you to your utmost satisfaction. Welcome!

Herb Kugel

INTERACTIVE TERMINAL DEMONSTRATIONS

UTCC has arranged a series of demonstrations of terminals used for interactive computing on such systems as APL, TSO and ATS. It is hoped that these demonstrations will enable the user community to get an idea of the various makes and models of interactive terminals that are available. The demonstrations will be given by the suppliers, one per day as listed below. Users are invited to attend these demonstrations during the hours listed. As of this writing the following demonstrations have been arranged. They will be held in the Conference Room (302), 49 St. George.

Digital Equipment VT50

April 8, 10 a.m. to 3 p.m.
-upper case ASCII
-low cost
-CRT displays 20 lines of 80 characters
-optional printer available

Ahearn and Soper ASL/1

April 9, 9:30 a.m. to 1 p.m.
-terminal built around the DIABLO printer unit features interchangeable low-cost type wheels, and pen/paper motion in four directions
-APL supported

Volker-Craig

April 10, 10 a.m. to 3 p.m.
-full ASCII CRT terminal
-APL character set available

Metrolab DT4000 V.R.U.

April 22, 1 p.m. to 4 p.m.
-Voice Response Unit only (not an APL/TSO/ATS terminal)
-synthesizes human speech based upon data from computer.

Note: The presentations listed below have already taken place. Details on these terminals may be obtained from Ian Darwin at 928-7318.

Hewlett-Packard 2640-A
Ontel A4000
Hazeltine (various models)
Votrax (voice response unit only)

cont'd...

DEMONSTRATIONS Cont'd.

Watch HOTNEWS and the APL and TSO sign-on messages for announcements of new demonstrations, changes in schedule, etc. TSO users can obtain a current list of demonstrations by entering HELP TERMDEMO. Suggestions for any terminal demonstrations which would be of interest to the user community should be directed to Ian Darwin at 928-7318.

Ian Darwin

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

American Society of Cybernetics.
    Proceedings of the Symposium on Cybernetics, Simulation and Conflict Resolution, edited by D.E. Knight et al.
New York, Spartan Books, 1971.

Annual Review of Information Science and Technology. v.9 (1974)

Association for Computing Machinery.
    Proceedings of the National Conference, 29th, 1974.

Davis, Gordon Bitter.
    Management Information Systems: Conceptual Foundations, Structure, and Development.
New York, McGraw-Hill, 1974.

Eilenberg, Samuel.
    Automata, Languages, and Machines: Volume A.
New York, Academic Press, 1974.

Hildebrand, Francis Begnaud.
    Introduction to Numerical Analysis.
2d ed.
New York, McGraw-Hill, 1974

Morgan, James N.
    THAID: A Sequential Analysis Program for the Analysis of Nominal Scale Dependent Variables, by J.N. Morgan and R.C. Messenger.
Ann Arbor, University of Michigan, Institute for Social Research, 1973.

Pritsker, A. Alan B.
    The GASP IV Simulation Language.
New York, Wiley, 1974.

Schwartz, Jacob T.
    On Programming; Installment 2: The SETL Language and Examples of Its Use.
New York, Courant Institute, Oct. 1973.

Stacy, Ralph W., ed.
    Computers in Biomedical Research, edited by R.W. Stacy and B.D. Waxman.
New York, Academic Press, 1974.

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https://archive.org/details/computernewsmarc122jane

LINKAGE EDITOR IDIOSYNCRASIES

The Linkage Editor is one of the most heavily used IBM processors. It may, however, cause problems for users who are unaware of certain of its peculiarities.

Problems may arise with the use of SYSLIN or, in the case of the UTCC catalogued procedures involving the Linkage Editor, the SYSIN DD statement. The dataset defined by this statement is the primary input dataset to the Linkage Editor. It normally contains object modules (i.e. output from a compiler or an assembler) and/or Linkage Editor control statements. The maximum blocksize (BLKSIZE) allowed by the Linkage Editor is 3200 bytes. The blocksize is hardwired into the Linkage Editor and cannot be increased. Should the user attempt to go above this, he will receive the Linkage Editor error message

```
IEW0594
   INPUT DATASET BLKSIZE IS INVALID
```

This cannot be corrected unless the user reblocks his dataset. Increasing the region available to the Linkage Editor will not help.

There is another Linkage Editor 'quirk' where an increase in the Linkage Editor region will help. This is the case with programs that are quite large (not in the memory sense but in the fact that they contain a great number of control sections and/or external or internal transfer points). Users should note that the Linkage Editor has two size parameters; SIZE=(Value1,Value2). Value1 represents the total core available to the Linkage Editor and is the same value as the REGION available to the job step. The UTCC default is 96K. Value2 is defined as how much of Value1 can be used for input text records, intermediate data records or output load module records. The UTCC default is 8K.

Occasionally, this text buffer (Value2) or other tables (in Value1) in a large program overflow. In this case no related error message is issued. Instead, the Linkage Editor dies with the IEW0594 error message shown above. This is not a difficult problem to deal with if the user is aware of what is happening. By adding subroutines and/or control sections to his program as he goes along, the user unknowingly creates a very large program and is suddenly confronted with the IEW0594 error message.

The fix is quite simple. The Linkage Editor parameters given below should solve the problem.

```
//  EXEC LE,PARM='(SIZE=240K,60K)',
//     REGION=240K
```

The UTCC current Linkage Editor defaults are designed to keep the user's region costs to a minimum and are the lowest values that can be assigned. They are sufficient for virtually all programs, but users should be aware that these values are variable.

Herb Kugel

NUMERICAL AND STATISTICAL LIBRARY USERS

As mentioned in a previous COMPUTERNEWS article (Sept '74), the naming conventions for system supported datasets has been changed. All numerical and statistical library names have been changed in accordance with the new convention and the catalogued procedures now point to the datasets which are prefixed by APPL. Since the new USERBOOK should now be in your hands, the old datasets prefixed with USER will be scratched from the system in the near future. Users with their own procedures are advised again to convert these procs to point to the corresponding APPL datasets. This should help distinguish system supported datasets from user supported datasets, and will allow the release of a large amount of on-line space currently tied up in the duplicate libraries.

In the numerical methods and optimization area, the following datasets replace the old datasets with the prefix USER:

APPL.ARGONLIB	EISPACK eigensystem package
APPL.DYNV404	DYNAMO continuous system simulator
APPL.ENGLIB	various numerical
APPL.ENGLIB2	and simulation routines
APPL.IMSLSLIB	IMSL numerical
APPL.IMSLDLIB	routines
APPL.MATHLIB	Numerical methods
APPL.MPSXLIB	MPSX linear programming
APPL.OPTISLIB	OPTISEP optimization
APPL.OPTIDLIB	routines
APPL.SIMERR7C	SIMSCRIPT II.5
APPL.SIMLIB7C	discrete simulation
APPL.SIM25V7C	language
APPL.SSPFLIB	IBM Scientific Subroutine Package

In the statistical library of routines the following datasets replace old datasets with the prefix USER:

APPL.AID3.MCA	AID III/MCA modules of the OSIRIS system
APPL.ISRNEWS	News dataset for AID III/MCA
APPL.DTXLMOD.V31	Version 3.1 of DATATEXT
APPL.DTXSYSFL.V31	DATATEXT system file for Version 3.1

As well, the following datasets replace old datasets with the prefix IC:

APPL.SPSSLIB	Versions 4 and 5 of SPSS
APPL.SPSSNEWS.V5	Version 5 news
APPL.SPSSNEWS.V4	Version 4 news
APPL.DTXLMOD.V3	Version 3 of the DATATEXT system
APPL.DTXSYSFL.V3	System file for DATATEXT Version 3

Len Prepas and John Roth

TSO TOPICS

Documentation

The new USERBOOK has now been distributed. Users who did not receive copies of the TSO modules, can pick them up at the Information Office, Sir Sandford Fleming Building, Room 128. The TSO modules of primary interest are contained in USERBOOK 3.3. These are 3.3TSO for basic TSO information, 3.3DISKDM for dataset management, and 3.3TSOEDIT for the TSO EDIT command. The module 3.3DEBUG may be of interest to those users preparing interactive programs. Users wishing to prepare batch jobs using TSO will find module 3.3JCL of great value. A complete list of modules can be found in USERBOOK 3.0. Please note that new modules on SPEAKEASY under TSO will be released in the near future.

New SPEAKEASY Processor Installed

At the end of January, UTCC installed a new release of the SPEAKEASY system on TSO. This system has now been in operation for over a month and as yet no problems have been encountered. The new release, called 'KAPPA', has solved a number of problems and provides several new features. These are as follows: ATTENTION processing now works; program checks are trapped and therefore do not cause SPEAKEZ to ABEND; 'Question mark' processing and character-string processing have been improved.

Another valuable feature is RETRY. When an error is encountered in an input line, the line is stored in a 'retry buffer' for later use. Typing the RETRY word will cause the line to be re-executed. For example:

```
:_y=8.0
:_z=sin(x)+cos(y)
X IS NOT DEFINED IN LINE "
   Z=SIN(X)+COS(Y)    "
:_x=0.24
:_retry
:_z
Z =  .092203
:_
```

There is a CHANGE command which can be used to update the RETRY buffer. For example:

```
:_x=3*sin(y+2*cos(y)
IN LINE " X=3*SIN(Y+2*COS(Y)    "
   PARENTHESIS IMBALANCE.
:_change "y" "y)"
:_retry
:_x
X = -.12831
:_
```

This is basically the same as the 'quoted-string' form of the TSO EDIT subcommand CHANGE, except that the quote mark (") rather than the apostrophe (') is used.

In addition, if multiple lines are entered, only the last line which is incorrect will be saved in the RETRY buffer.

Several other changes are included in the KAPPA release. These will show up as improved results of SPEAKEASY execution. Interested users should contact Ian Darwin for a complete list of documented changes.

cont'd...

TSO TOPICS Cont'd.

Users with problems, suggestions or questions regarding TSO should contact Ian Darwin at 49 St. George St., Room 301, 928-7318.

Ian Darwin

ATTENTION HSJS USERS

Effective April 14, 1975, High Speed Job Stream Advising at ASUT and EUT will no longer be available. This service will resume with the start of the 1975/76 academic year. However, the GPJS Advisor in SF117, the Terminal Co-ordinator (SS2104) or the terminal operator at ASUT (SS2105) will be available to help HSJS users with questions or problems between 10 a.m. - 5 p.m., Monday to Friday.

General Purpose Job Stream Advising will continue as before, 10am-5pm, Monday through Friday.

Mark Tapia

HSJS MONTHLY STATISTICS

The figures reflecting the HSJS activity for January, 1975 are now available. During this month 87,843 jobs were processed compared with 129,336 for the previous year, a decrease of 32%.

During the month of February, 1975, 192,556 jobs were processed compared with 156,159 for the previous year, an increase of 23%.

For the two months this is a total decrease of 1.8%

The following charts summarize the **HSJS** activity for the month of February. The graph represents the average number of jobs processed during each half hour period of the day.

Mark Tapia

RESOURCE USAGE BY PROCESSOR

			TOTAL PER PROCESSOR			AVERAGE PER USE		
PROCESSOR	#USES	%TOTAL	CPU (MIN)	#CARDS READ	#LINES PRINTED	CPU (MIN)	#CARDS READ	#LINES PRINTED
WATFIV	83470	(43)	775.25	8734566	11244284	0.008	104	132
PL/C	54005	(28)	1007.83	6430255	13249898	0.016	116	244
OTHER*	20257	(11)	223.23	771402	2160093	0.008	36	104
SPITBOL	9131	(5)	92.96	1073691	1854038	0.008	116	200
UTILITY	5854	(3)	15.01	583760	785945	0.000	96	132
WATBOL	5721	(3)	83.36	1580152	1682054	0.012	276	292
ASMG	4939	(3)	59.32	510023	1036608	0.012	100	208
ALGOLW	4429	(2)	60.79	844204	1224202	0.012	188	276
LISP	4092	(2)	34.63	241673	825339	0.008	56	200
PLUTO	564	(0)	9.83	45870	77925	0.016	80	136
ASSIST	80	(0)	1.61	46836	42865	0.020	584	536
SIMON	14	(0)	0.04	810	1128	0.000	56	80
TOTAL	192556		2363.87	20863242	34184399	0.012	108	177

*SP/K, SPSSQ and SNAP

```
ALL TERMINALS                                               JOB VOLUME FOR 01/07/75 - 28/02/75
CLASS = W                                                        (AVERAGE OVER 27 DAYS)

                                                            # JOBS WHICH BEGAN EXECUTION AT INDICATED TIME
                                          25   50   75  100  125  150  175  200  225  250  275  300  325  350  375  400  425  450  475  500
                            |#JOBS|TOD|----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                            |   43|   |66666666
PROCESSOR   #USES     %     |   45|   |666666666
WATFIV      83470 (43)      |   49|  1|666666666
PL/C        54005 (28)      |   44|   |66666666
OTHER*      20257 (10)      |   42|  2|66666666
SPITBOL      9131 ( 4)      |   33|   |666666
UTILITY      5854 ( 3)      |   29|  3|66666
WATBOL       5721 ( 2)      |   25|   |66666
ASMG         4939 ( 2)      |   19|  4|666
ALGOLW       4429 ( 2)      |   20|   |6666
LISP         4092 ( 2)      |   19|  5|666
PLUTO         564 ( 0)      |   15|   |666
ASSIST         80 ( 0)      |    7|  6|6
                            |    5|   |6
                            |    0|  7|
                            |    3|   |
                            |   46|  8|666666666
                            |   97|   |6666666666666666666
                            |  106|  9|666666666666666666666
                            |  154|   |666666666666666666666666666666
                            |  177| 10|66666666666666666666666666666666666
                            |  215|   |6666666666666666666666666666666666666666666
                            |  252| 11|66666666666666666666666666666666666666666666666666
                            |  270|   |666666666666666666666666666666666666666666666666666666
                            |  274| 12|666666666666666666666666666666666666666666666666666666
                            |  312|   |66666666666666666666666666666666666666666666666666666666666666
                            |  329| 13|66666666666666666666666666666666666666666666666666666666666666666
                            |  341|   |66666666666666666666666666666666666666666666666666666666666666666666
                            |  323| 14|6666666666666666666666666666666666666666666666666666666666666666
                            |  310|   |66666666666666666666666666666666666666666666666666666666666666
                            |  314| 15|66666666666666666666666666666666666666666666666666666666666666
                            |  323|   |6666666666666666666666666666666666666666666666666666666666666666
                            |  334| 16|666666666666666666666666666666666666666666666666666666666666666666
                            |  327|   |66666666666666666666666666666666666666666666666666666666666666666
                            |  316| 17|666666666666666666666666666666666666666666666666666666666666666
                            |  290|   |6666666666666666666666666666666666666666666666666666666666
                            |  203| 18|6666666666666666666666666666666666666666
                            |  186|   |6666666666666666666666666666666666666
                            |  190| 19|66666666666666666666666666666666666666
                            |  203|   |6666666666666666666666666666666666666666
                            |  196| 20|666666666666666666666666666666666666666
                            |  192|   |66666666666666666666666666666666666666
                            |  171| 21|6666666666666666666666666666666666
                            |  132|   |66666666666666666666666666
SHIFT       #JOBS           |   19| 22|666
0 - 8       10939           |   13|   |66
8 - 4      103950           |   12| 23|66
4 - 12      77667           |   14|   |66
                              7131|   | 8-SERVICE FACTOR(2.0) || 6-SERVICE FACTOR(1.0) || 4-SERVICE FACTOR(0.6)

TOTAL JOBS AT SF 0.6 (UNAVERAGED)      2      *SP/K, SPSSQ and SNAP
TOTAL JOBS AT SF 1.0 (UNAVERAGED)192554
TOTAL JOBS AT SF 2.0 (UNAVERAGED)      0
TOTAL JOBS AT ALL SF (UNAVERAGED)192556
```

S/370-165-II RELIABILITY

The reliability statistics for February indicate an uptime percentage of 96.0 while the average number of IPLs per day reached 1.14. The scheduled hours of production for February totalled 444.

MONTHLY COMPARATIVE FIGURES

MONTH	% UPTIME	UNSCHED. IPLs/DAY
JAN/74	97.0	1.37
FEB/74	98.3	1.25
MAR/74	98.7	1.06
APR/74	99.3	0.52
MAY/74	99.2	0.87
JUN/74	96.1	0.75
JUL/74	91.7	1.66
AUG/74	98.3	0.86
SEP/74	94.5	1.83
OCT/74	98.6	1.07
NOV/74	98.9	0.93
DEC/74	97.1	1.21
JAN/75	95.7	2.77
FEB/75	96.0	1.14

The percentage breakdown of total system downtime for February was:

Hardware: 846 minutes (78.7%)
Software: 149 minutes (13.9%)
Other : 80 minutes (7.4%)

The major events contributing to these downtime totals were as follows:

Feb. 5, 13:

A total of 137 minutes and 2 IPLs were attributed to the system looping on the 3704 during nucleus initialization.

Feb. 15:

A total of 480 minutes and 1 IPL were due to machine power-up problems arising from a scheduled power shutdown overnight. IBM/ITEL were in for the entire period and attempted to trace the problem through the channels. A number of cards were re-seated or swapped and the problem was rectified.

Feb. 18, 19, 20:

A total of 161 minutes and 9 IPLs were attributed to double bit errors in ITEL memory. On February 18, the S/370 system was run with only two megabytes of memory online for a period of twelve hours. Faulty cards were replaced by ITEL to resolve each problem as it occurred.

Feb. 28:

A total of 88 minutes and 1 IPL were due to the system looping on the 7330 control unit attached to channel 3. ITEL corrective maintenance found and replaced a defective card chip.

Paul Scarborough

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                          DOWNTIME_REPORT_ON___S/370__FOR_FEB_75

----------------------------------------------------------------------------------------------------------------------------
|                                                REIPLS(FREQ) // DOWNTIME (MN)                                             |
| DAY  REIPL   DNTIME 0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75   80   85   90   95  100|
======================+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+|
| S  1      0       0 |                                                                                                    |
| S  2      1       5 |□****                                                                                               |
| M  3      1      10 |□*********                                                                                          |
| T  4      3      43 |□□□****************************************                                                         |
| W  5      1      35 |□**********************************                                                                 |
| T  6      0       0 |                                                                                                    |
| F  7      2      20 |□□******************                                                                                |
| S  8      0       0 |                                                                                                    |
| S  9      0       0 |                                                                                                    |
| M 10      0       0 |                                                                                                    |
| T 11      1       5 |□****                                                                                               |
| W 12      0       0 |                                                                                                    |
| T 13      1     122 |□********************************************************************************************** 122 |
| F 14      0       0 |                                                                                                    |
| S 15      0     480 |*********************************************************************************************** 480 |
| S 16      0       0 |                                                                                                    |
| M 17      0       0 |                                                                                                    |
| T 18      6     103 |□□□□□□***************************************************************************************** 103 |
| W 19      4      35 |□□□□*******************************                                                                 |
| T 20      4      61 |□□□□*********************************************************                                       |
| F 21      0       5 |*****                                                                                               |
| S 22      1      10 |□*********                                                                                          |
| S 23      0       0 |                                                                                                    |
| M 24      0       0 |                                                                                                    |
| T 25      3      18 |□□□***************                                                                                  |
| W 26      1       8 |□*******                                                                                            |
| T 27      2      27 |□□*************************                                                                         |
| F 28      1      88 |□***************************************************************************************            |
----------------------------------------------------------------------------------------------------------------------------


  LEGEND      : ONE □  =ONE REIPL
                ONE *  =ONE MINUTE OF DOWNTIME
```

```
                          _S/370__DOWNTIMES_DURING_FEB_75

-------------------------------------------------------------------------------------------------------------------------
|                                               TIME OF DAY (HOURS)                                                     |
| DAY   RELOADS DNTIME 0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24|
=======================+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+|
| S  1      0      0   |                                                                                                |
| S  2      1      5   |                                                        H                                       |
| M  3      1     10   |                                                          S                                     |
| T  4      3     43   |                                               S            SSSS                                |
| W  5      1     35   |                                I                                SS                             |
| T  6      0      0   |                                                                                                |
| F  7      2     20   |                                                                        H        H              |
| S  8      0      0   |                                                                                                |
| S  9      0      0   |                                                                                                |
| M 10      0      0   |                                                                                                |
| T 11      1      5   |     S                                                                                          |
| W 12      0      0   |                                                                                                |
| T 13      1    122   |                                                                               HHHHHHHHH        |
| F 14      0      0   |                                                                                                |
| S 15      0    480   |                                        IIIHHHHHHHHHHHHHHHHHHHHHHHHHHHHH                        |
| S 16      0      0   |                                                                                                |
| M 17      0      0   |                                                                                                |
| T 18      6    103   |     H                          HHHH     H H                           SS S                     |
| W 19      4     35   |                                                                          H      H  H H         |
| T 20      4     61   |          H            H        HH       H       H                                              |
| F 21      0      5   |                                I                                                               |
| S 22      1     10   |                                                                H                               |
| S 23      0      0   |                                                                                                |
| M 24      0      0   |                                                                                                |
| T 25      3     18   |                                S       H                                   S                   |
| W 26      1      8   |                                                                          S                     |
| T 27      2     27   |                                              S              SS                                 |
| F 28      1     88   |                                            HHHHH                                               |
-------------------------------------------------------------------------------------------------------------------------
LEGEND :    H FOR HARDWARE
            S FOR SOFTWARE                      STATISTICS
            O FOR OPERATIONAL
            U FOR UNEXPLAINED
            I FOR LATE IPL
                                          TOTAL SCHEDULED HOURS OF PRODUCTION :  444
                                          TOTAL DOWNTIME (MN)  : 1075 , AVG/DAY :  38.39 , AVG/PROD HOUR :   1.13
                                          TOTAL REIPL'S        :   32 , AVG/DAY :   1.14
                                          DOWNTIME RATE IS     :  4.04 PERCENT OF SCHEDULED PRODUCTION HOURS
```

CPS GOING

Effective May 5, 1975, CPS (Conversational Programming System) will no longer be supported on the Interactive Terminal Systems. All online information such as programs and files will be backed up by UTCC onto magnetic tape and can be retrieved later by the user on a request basis.

Current CPS users should contact Stan Yagi at 928-7331 for further information.

Stan Yagi

INTERACTIVE SYSTEMS RELIABILITY

The uptimes achieved for the month of February for each of APL, ATS, and CPS were 99.77%, 99.72% and 98.75% of scheduled operation, respectively. The number of scheduled hours of operation during the month of February totalled 452.86, while the number of unscheduled IPL's per day was 0.07. In addition to the scheduled time, APL, ATS and CPS were also available for approximately 120 hours of unattended weekend operation. The major events contributing to downtime were as follows:

Feb. 5: CPU entered solid system state while system programmer tried to access information from APL File Subsystem through standard interfaces.

Feb. 13: (a) Restarted APL file restore due to tape drive malfunction.

(b) I/O error during machine check processing caused CPU to enter wait state.

The following table summarizes the time lost out of scheduled hours of production due to system failures for each of the systems. Two unscheduled IPL's were required as a result of the failures.

Kam Jain

DATE	DOWNTIME (mins)			REASON
	APL	ATS	CPS	
Wed. Feb. 5	14	17	19	*Solid System (SOFTWARE)
Wed. Feb. 12	-	-	259	CPS cancelled from privilege account (OPERATIONAL)
Thu. Feb. 13	34	37	43	Late IPL due to tape drive malfunction during backups (HARDWARE)
"	14	16	18	*IGF006S I/O error (HARDWARE)
Thu. Feb. 20	-	-	1	Late IPL - work-space retrieve
Total	62	75	340	*IPL Required

System Failures February 1 to February 28, 1975

EYE TRACKING EXPERIMENT

Two Human Factors students, Joe Willis and Ross Saldan, under the supervision of Professor John Senders, Department of Industrial Engineering, have completed their thesis experiments at the Computer Research Facility, using CRF's GT-44 real time data acquisition computer system, and an eye tracker owned by the Department of Industrial Engineering.

The purpose of the experiments was to study the movements of the eye when observing various types of visual display patterns. A program written by Dennis Smith of CRF as an addition to the CRFDATA system, generated the various patterns on the GT-44's graphic display and acquired the eye track data. The experimental subjects were seated in front of the display, wearing the eye tracker equipment. The output of the tracker, analog voltages corresponding to the position of the subject's eyes, were fed into the GT-44's analog to digital converter, where they were converted and stored on magnetic tape.

The eye tracker equipment consists of two parts: the eye position sensors, which are built into normal eyeglass frames, and the electronic box which contains the necessary amplifiers, filters and indicators. The equipment works by measuring the differential reflection at the iris-sclera boundary (the sclera being the white of the eye).

When following a moving object, the eyes move in one of two ways: they may follow by a series of quick jumps (saccades) and fixations, or by one smooth motion. The subject is unaware of which method is being employed, and perceives that his eyes move with a smooth motion. By varying parameters such as the speed with which the patterns move across the screen, the experimenters can determine the point at which the subject changes from one type of eye movement to the other. In addition, the experimenters are aiming to discover the combinations of variables at which the subject finds the patterns blurring, flickering and jumping.

The magnetic tape produced by the GT-44 system, was taken to the System 370-165-II where CRF's standard plot routines were used to plot the results of the experiments on the Gould plotter.

The results of these experiments will help to provide improved design information for digitally generated alphanumeric video displays.

Willis, Saldan and Stevens

UNIVERSITY OF TORONTO DATATALK

DATATALK services are offered by UTCC at no charge for casual enquiry and problem solving and are available to anyone within the University of Toronto community. DATATALK is also the nearest resource for APL program advice and APL software information. Users can obtain advice on the many aspects of APL computing at the University of Toronto, including on-line workspaces in the public libraries, the file system, the high-speed printing facility and APL remote job entry.

For an immediate answer to your query, call DATATALK at 928-6710 or drop in at our office, Room 205, 49 St. George, 10 a.m. - 10 p.m., Monday through Friday.

Ernst Goetze

DIALOGUE: DATATALK QUICK QUERIES

DATATALK offers fast accurate answers to problems that can be answered quickly with assistance from the computer.

Simulations of DATATALK conversational computing experiences are featured here to encourage users to access DATATALK services for resolving points of fact that may help in getting their work done.

DATATALK: Good morning. DATATALK services, Ernst Goetze speaking.
C: Hi! I have 12 observations making up a 12 by 2 contingency table. Can you return the expected frequencies?
D: Yes. What are the observations?
C: I'll read the pairs.
C: 3743 3537, 3550 3407, 4017 3866, 4173 3711, 4117 3775, 3944 3665, 3964 3621, 3797 3506, 3712 3491, 3512 3391, 3392 3160, an 3761 3371.
D: Expected frequencies, rounded up to the nearest integer, are 3767 3513, 3600 3357, 4080 3803, 4080 3804, 4084 3808, 3938 3671, 3925 3660, 3826 3567, 3728 3475, 3572 3331, 3391 3161, and 3691 3441.
C: O.K. I've got those. What's the chi-squared value?
D: 14.986 on 11 degrees of freedom.
C: Is that significant at the 5 per cent level?
D: No.
C: Fine. Didn't expect that it would be. Thanks.

……………………

cont'd...

DIALOGUE Cont'd.

DATATALK: Good morning, DATATALK services...
C: Good morning. Can you estimate the integral of root two plus one over X-squared minus one, between two and ten?
D: ...Root three over...
C: No. Root two plus...
D: Right. I've got it. Gauss quadrature on 12 and 24 points return the value 11.47, or actually, 11.46998.
C: Very good. Thank you.

....

DATATALK: Good morning, DATATALK services...
C: Hello. If I let...excuse me...
Consider a series with general term A(n) equal to SIN A(n-1) and with A(0)=1. Then it's clear that A(n) will tend to zero for large n.
What happens to nxA(n) and (root n)xA(n), or some other fractional power of n times A(n)?
D: ...O.K...Doing the iteration and returning A(n) times n, root n, cube root n, fourth root n and up to fifth root n, it seems that A(n) times n and root n are increasing, but starting at the cube root of n times A(n), the terms are decreasing steadily for n greater than ten, and so far, for n greater than 1900...
C: O.K. Would you mail the output to me?
D: Yes. I will terminate the program here, at about n equals 2400.
C: Thank you.

....

DATATALK: Good morning, DATATALK services...
C: Hello. I would like to fit a polynomial to six points...hm...
D: Lagrange?
C: No. It must be of fourth degree and have no X-cubed term. Also, I'm not concerned about the coefficients. I only want to know what the minimum value of the fitted polynomial is.
D: Fine. Would you read the data points to me, please.
C: When X=0.5, Y=12.1. When X=1.0, Y=8.6,...hm...
D: It would be helpful if you read all the X-coordinates first, and then the corresponding Y-coordinates.

cont'd...

DIALOGUE Cont'd.

C: Oh, fine. Then X equals 0.5, 1.0, 1.5, 2.0, 2.5, and 3.0. The corresponding Y values are Y equals 12.1, 8.6, 5.4, 5.6, 7.7, and 16.3.

D: Thank you. In that case, the polynomial has a min at X equals 2.0000 and a value of 5.1257 at that point...

D: I'm just looking at a sketch plot of it too. It seems that a quadratic will fit almost as well...

C: No. That's alright. It must be fourth degree. What are the coefficients, by the way?

D: It's 16.104 minus 8.101 X plus 0.1788 X squared plus zero X cubed and 0.2818 X to the fourth.

C: O.K. Thank you very much.

....

DATATALK: Good morning, DATATALK services..

C: Good morning.

C: If you look at the equation three equals exponential X times three minus X, then it's obvious that there is a solution X between two and three. In fact, I did two iterations by Newton's method and got to X=2.8529. Can you give me a better answer?

D: X=2.82143937.

C: Yes? Good. Thank you.

Ernst Goetze

UTCC COMPUTER EQUIPMENT

SYSTEM/370 MODEL 165-II

- located in SF103/105/112
- provides General Purpose Job Stream, High Speed Job Stream and TSO services
- 3072K bytes of memory
- 1 drum
- 13 disk drives (3330)
- 8 disk drives (2314)
- 6 magnetic tape drives (4 9-track and 2 7-track)
- 6 display consoles
- 6 printers
- 5 card readers
- 1 card punch
- 8 remote batch terminals
- 1 paper tape reader
- Calcomp plotters (11" and 30")
- Gould plotter (11")
- OS/MVT with HASP

SYSTEM/360 MODEL 65

- located in McLennan Physical Laboratories
- provides Interactive Systems Service
- 1536K bytes of core
- 24 disk drives (2314)
- 3 9-track magnetic tape drives
- 1 printer
- 1 card reader
- 1 card punch
- 140 typewriter terminals
- OS/MVT with APL, ATS and CPS

7094 II

- located in Room 1203 Burton Tower
- 32K words of core
- 1 disk
- 8 magnetic tape drives
- input/output via a 1401 computer

COMPUTER RESEARCH FACILITY

- located in SF207
- DEC GT44 Systems with
  - 1 PDP-11/40 CPU
  - 2 9-track dual density tape drives
  - 1 1000 cpm card reader
  - VT17 graphics display unit
  - 1 lab. peripheral system with A/D & D/A
  - 1 CVI 260 Video Bandwidth Compressor
- DEC GT40 System with
  - 1 PDP-11/10 CPU
  - 1 2314 tape disk drive
  - 1 VT12 graphic display unit
  - 9-track/800 BPI tape drive
  - 1 Calcomp microfilm plotter

UTCC DIRECTORY

	ROOM	PHONE 928-
DIRECTOR		
John C. Wilson	SF143	6496
ASSOCIATE DIRECTOR		
Al Heyworth	SF116	4936
ADMINISTRATION MANAGER		
Anthony Pieterse	SF137	8948
INFORMATION OFFICE		
General Inquiries	SF128	4990 or 4991
Don Gibson	SF128A	
MANAGER, SERVICES		
Stan Yagi	49 St.Geo	7331
SUPERVISOR, MARKETING SERVICES		
Dave Scobie	49 St.Geo	6877
TERMINAL CO-ORDINATORS		
Sandford Fleming Terminal		
Mark Tapia	SF125	7109
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Erindale		
Vaughan Lawrason		828-5311
Scarborough		
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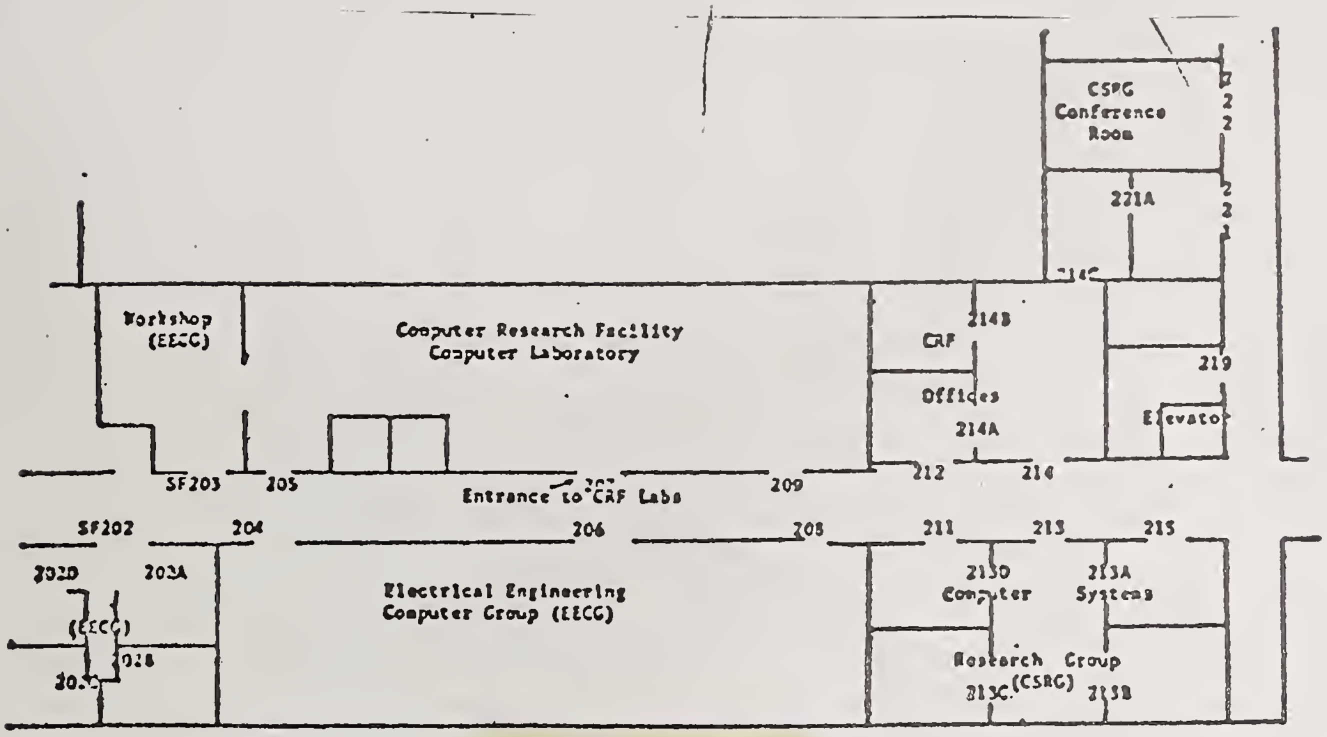
Marlene Domoney	SS2104	6509
Management Studies		
Paul Roth		4917
MANAGER, SUPPORT SERVICES		
Joyce Walton	49 St.Geo	6875
MANAGER, OPERATIONS		
Derry Cox	SF113	7092
MANAGER, SYSTEMS		
Rein Mikkor	SF113	5058
SYSTEM HARDWARE SUPERVISOR		
Eugene Siciunas	SF113	4967
MANAGER, 7094 SERVICES		
Joyce Walton	49 St.Geo	6875
Supervisor (7094)	NP1207	7094
MANAGER, COMPUTER RESEARCH FACILITY		
Dennis Smith	SF214B	4800
LAB CO-ORDINATOR (CRF)		
Krishna Patnaik	SF207	8858
CONTRACT PROGRAMMING		
Bill Greene	SF214C	2694
AUTHORIZATION CLERK		
Yvonne Bowen	SF139	8703

JOB AND SYSTEM STATUS QUERIES

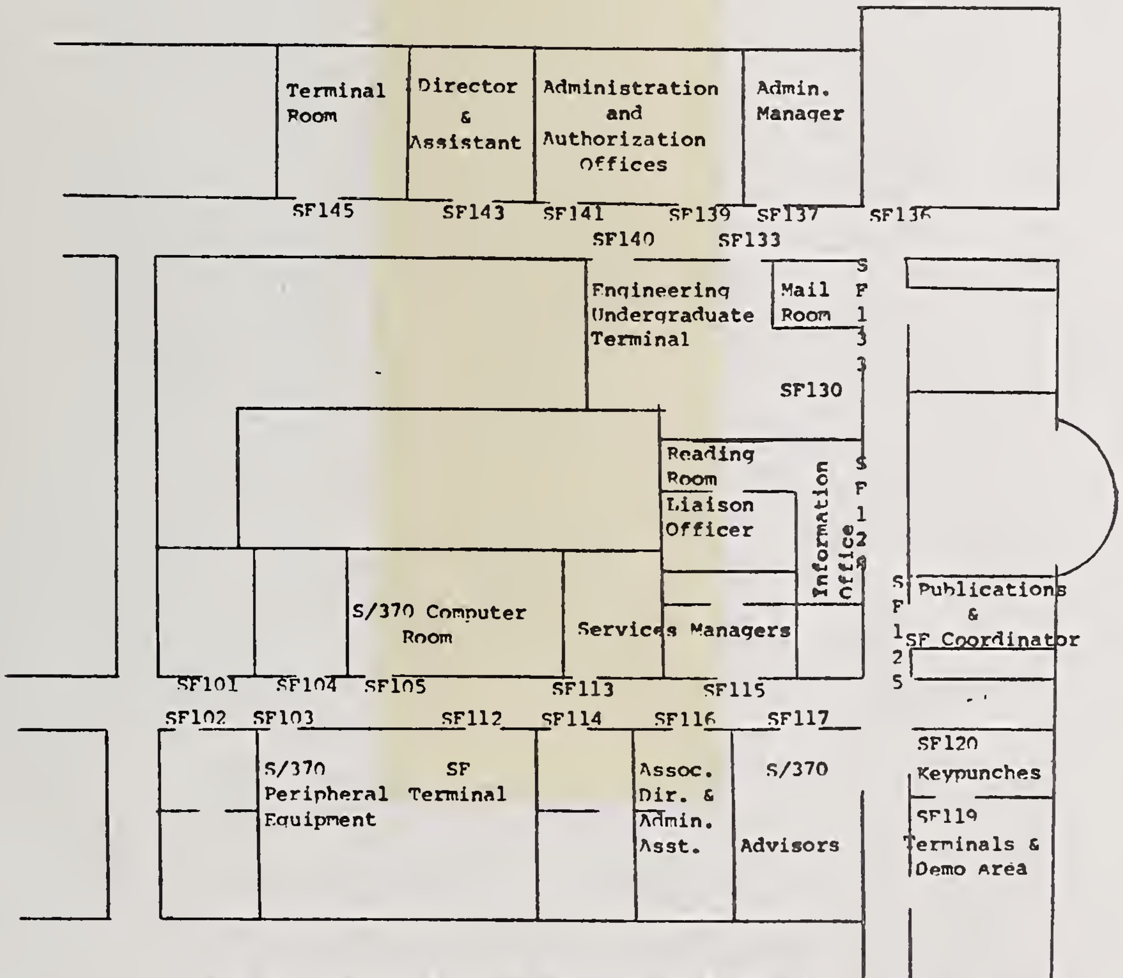
SYSTEM/370, TSO	7373
ATS/APL	6234
7094	7094
2741 TERMINAL MALFUNCTIONS	7107
029 KEYPUNCH MALFUNCTIONS	6465

SERVICES

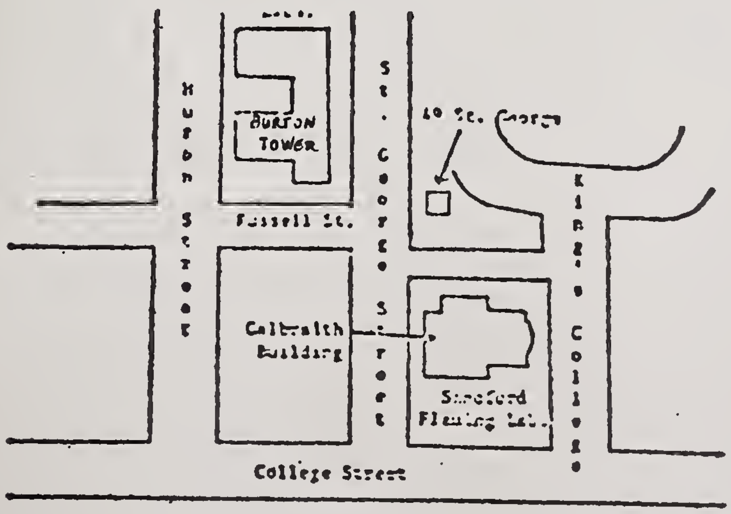
	DIAL-UP	ADVICE
APL	7200	6710
ATS	7100	7107
TSO - 2741	7303	8599
TSO - TTY (10 cps)	7390	8599
TSO - TTY (30 cps)	7386	8599
DATATALK	6710	6710

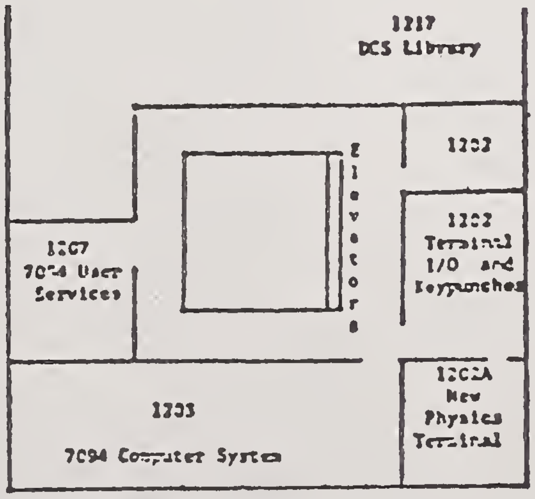


FLOOR PLAN: SECOND FLOOR, SANDFORD FLEMING LABORATORIES



FLOOR PLAN: FIRST FLOOR, SANDFORD FLEMING LABORATORIES





FLOOR PLAN: TWELFTH FLOOR, BURTON TOWER

UNIVERSITY OF TORONTO
COMPUTER CENTRE,
TORONTO, CANADA.

MR.G.GRANT
UTCC
SANDFORD FLEMING LABS.
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CAMPUS DELIVERY